

SINGAPORE CHINESE GIRLS' SCHOOL  
SECOND SEMESTRAL ASSESSMENT 2012

Primary 5

NAME: \_\_\_\_\_ (    )      DATE: \_\_\_\_\_

CLASS: PRIMARY 5 SY / C / G / SE

SCIENCE  
BOOKLET A

30 questions

60 marks

Total time for Booklets A & B: 1 h 45 min

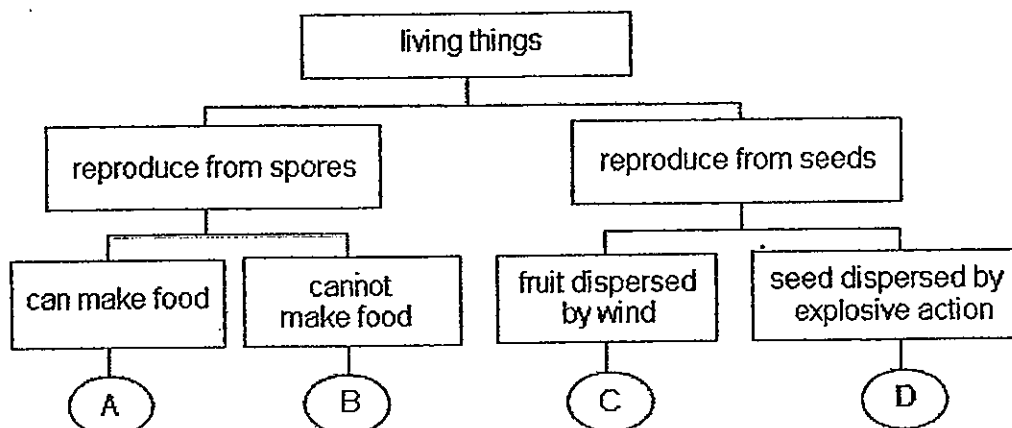
**DO NOT OPEN THIS BOOKLET UNTIL YOU ARE TOLD TO DO SO.**

**FOLLOW ALL INSTRUCTIONS CAREFULLY.**

**Part 1 (60 marks)**

For each question from 1 to 30, 4 options are given. One of them is the correct answer. Make your choice, (1, 2, 3 or 4). Shade the correct oval (1, 2, 3 or 4) on the Optical Answer Sheet.

- 1) Study the flowchart below.



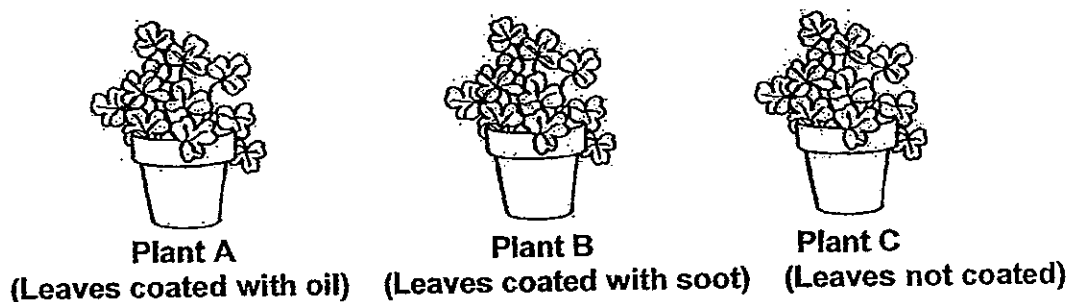
Which of the following is correct?

	A	B	C	D
1)	Balsam	Staghorn fern	Rambutan	Mushroom
2)	Staghorn fern	Mushroom	Angsana	Balsam
3)	Bird's nest fern	Mushroom	Rambutan	Papaya
4)	Balsam	Mould	Angsana	Papaya

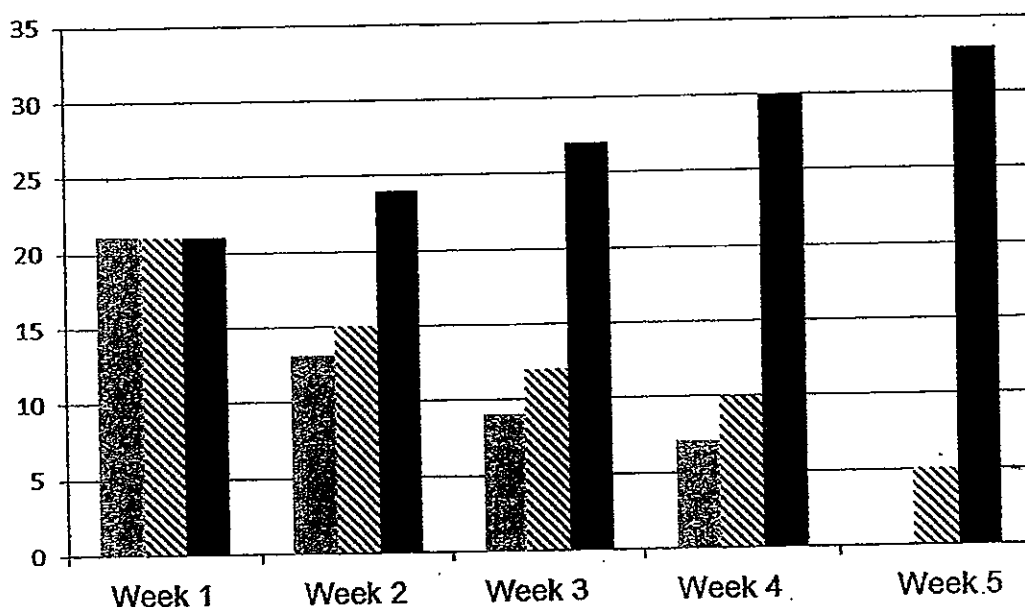
- 2) Which of the following statements about respiration is true?

- 1) Respiration produces food.
- 2) Respiration occurs all the time.
- 3) Respiration occurs only in animals.
- 4) During respiration, carbon dioxide is taken in and oxygen is released.




- 3) Amy prepared 3 set-ups to find out the effect of transparent oil and opaque soot (black substance formed from burning) on plants as shown in the diagram below. All the leaves were coated with oil for plant A and soot for plant B. The leaves of plant C were not coated with any substances. She placed the 3 similar pots of plants in the same place in the garden and watered them equally daily.



She recorded the number of leaves that remained on each plant after 5 weeks in the graph below.



Match the bar graph to what the plants are coated with.

			
1)	Not coated	Soot	Oil
2)	Soot	Not coated	Oil
3)	Not coated	Oil	Soot
4)	Oil	Soot	Not coated

- 4) The statements below compare the degree of hardness of 4 materials, A, B, C and D. Read them carefully.

*"When D scratches A and C, it leaves no scratches on them.  
When C scratches B and D, it leaves deep scratches on both of them.  
B leaves no scratches on A, C and D while A leaves no scratches on C."*

Arrange the 4 materials from the softest material to the hardest.

- 1) D, B, C, A
- 2) B, D, A, C
- 3) C, A, D, B
- 4) A, C, D, B

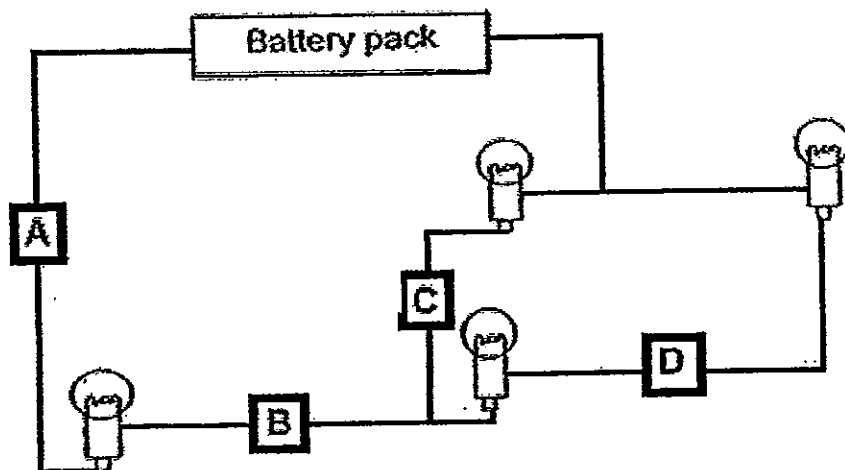
Study the table below carefully and answer questions 5 and 6.

The table below shows characteristics of 3 animals – P, Q and R.

Characteristic	Animal		
	P	Q	R
The young looks like the adult.	Yes	No	No
The adult has 6 legs.	No	No	Yes
The adult lay their eggs in water.	No	Yes	Yes

- 5) Which animal/s is likely to have a 4-stage life cycle?
- 1) P only
  - 2) R only
  - 3) P and Q only
  - 4) Q and R only
- 6) Which of the following statements is likely to be false?
- 1) P could be a platypus.
  - 2) Q and R are not mammals.
  - 3) P is likely to suckle their young.
  - 4) R spends its entire life cycle on land.

- 7) Kyra set up a circuit using some objects as shown below.



She wants the maximum number of bulbs in her circuit to light up.  
Which of the following objects should she place at positions A, B, C and D?

	A	B	C	D
1)	Plastic spoon	Copper coin	Iron nail	Steel spoon
2)	Steel spoon	Plastic spoon	Iron nail	Iron nail
3)	Steel spoon	Iron nail	Copper coin	Plastic spoon
4)	Steel spoon	Iron nail	Plastic spoon	Copper coin

- 8) The table below shows observations made of 3 types of cells, X, Y and Z.

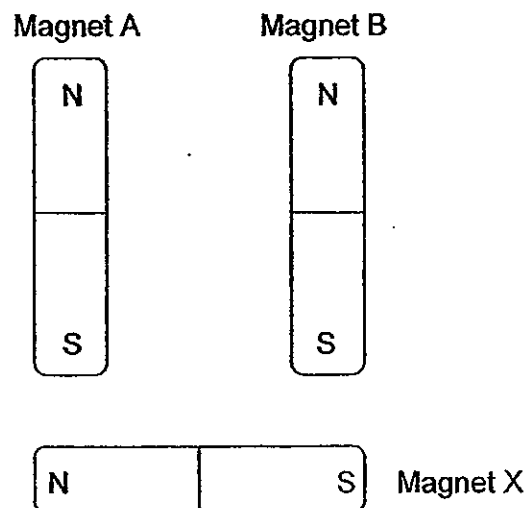
Parts of the cells	Cell X	Cell Y	Cell Z
Cell wall	Absent	Present	Present
Nucleus	Present	Present	Present
Chloroplast	Absent	Present	Absent

Based on the observations above, which statement/s is/are true?

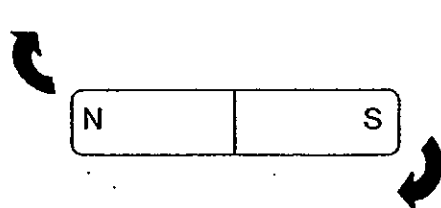
- A: Cell X is most likely an animal cell.
- B: Cells Y and Z are most likely plant cells.
- C: Only cells Y and Z are able to carry out life processes
- D: Cell X is the only cell that is unable to photosynthesize.

- 1) A and B only
- 2) C and D only
- 3) A, B and D only
- 4) All of the above

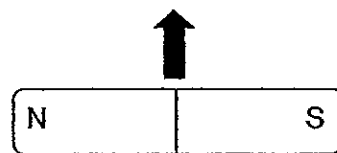
- 9) Chelsea moved 2 magnets A and B towards magnet X as shown in the diagram below.



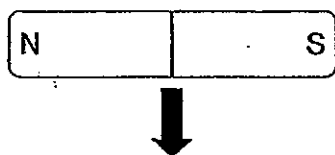
Which of the following shows the direction in which magnet X will move?



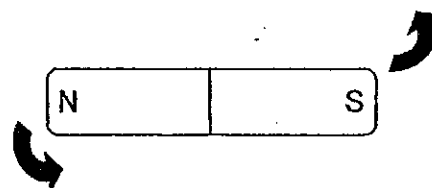
(1)



(2)



(3)

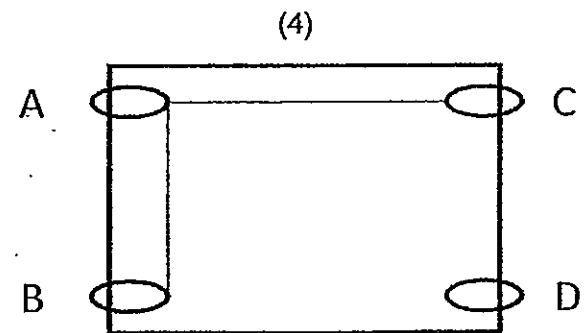
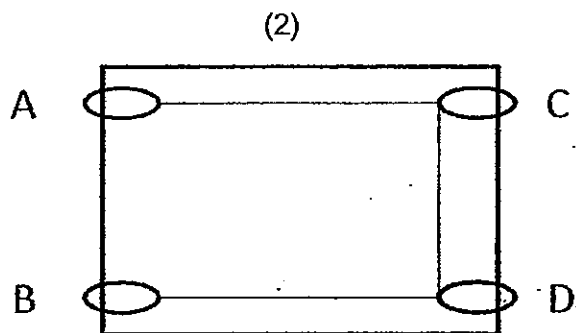
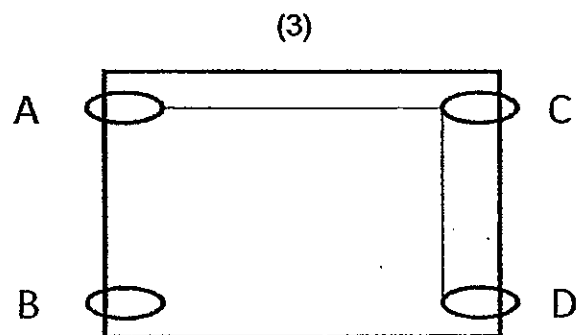
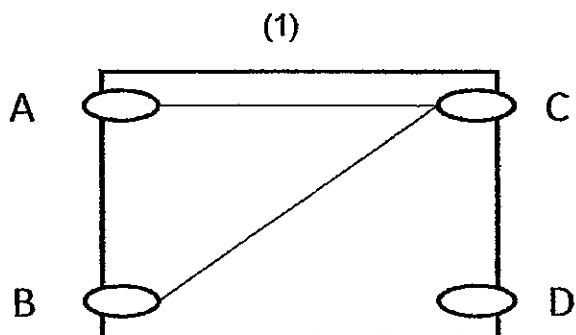


(4)

- 10) Jennifer used a circuit tester and tested a circuit card with metal clips. The table below shows her results.

Clips tested	Does the bulb light up?
A and B	No
A and C	Yes
A and D	Yes
B and C	No
B and D	No
C and D	Yes

Which one of the following circuit cards is the one Jennifer used?



- 11) The table below shows the states of 4 substances E, F, G and H at different temperatures.

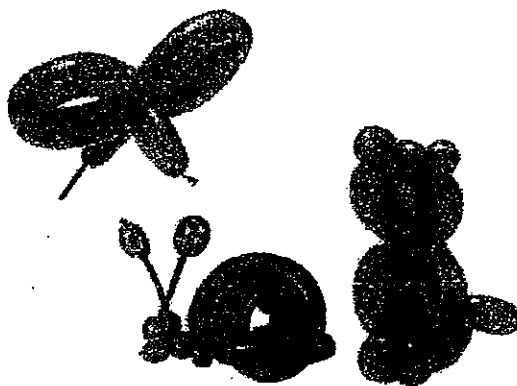
Substance	State of substances at		
	20 °C	50 °C	80 °C
E	Solid	Solid	Solid
F	Liquid	Liquid	Gas
G	Liquid	Liquid	Liquid
H	Solid	Solid	Liquid

4 children made the following conclusions based on the information given above.

Alan : Substance E has the lowest freezing point.  
Ben : Substance F has the lowest boiling point.  
Carrie : Substance G has a lower melting point than H.

Which of the children are correct?

- 1) Alan only
  - 2) Ben only
  - 3) Alan and Ben only
  - 4) Ben and Carrie only
- 12) Balloon modelling is shaping special balloons into almost any shape. The picture below shows balloon models of some animals.

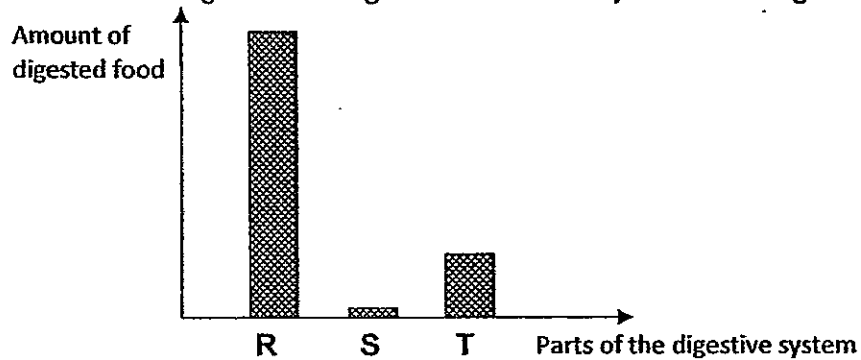


It is possible for balloons to be shaped like this because air \_\_\_\_\_.

- 1) has mass
- 2) occupies space
- 3) consists of rare gases
- 4) has no definite shape



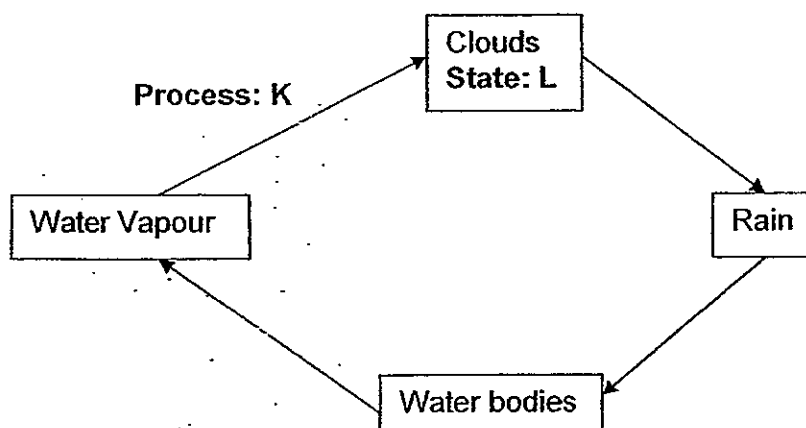
- 13) Tom ate a cheeseburger for lunch. The graph below shows the amount of food from the burger that is digested at different parts of his digestive system.



Which of the following represents R, S and T?

	R	S	T
1)	Small intestines	Mouth	Stomach
2)	Large intestines	Stomach	Small intestines
3)	Stomach	Large intestines	Small intestines
4)	Small intestines	Stomach	Mouth

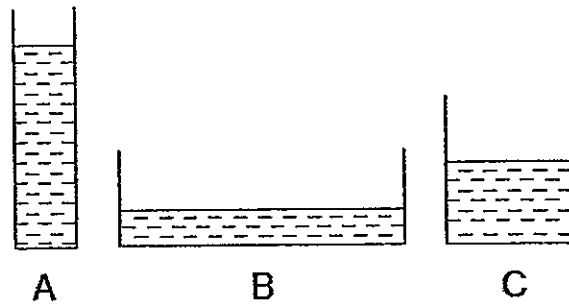
- 14) The diagram below shows the water cycle.



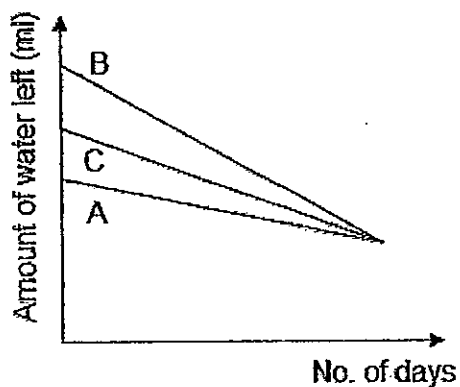
Which of the following is correct?

	K	L
1)	Condensation	Liquid
2)	Evaporation	Gas
3)	Condensation	Gas
4)	Evaporation	Liquid

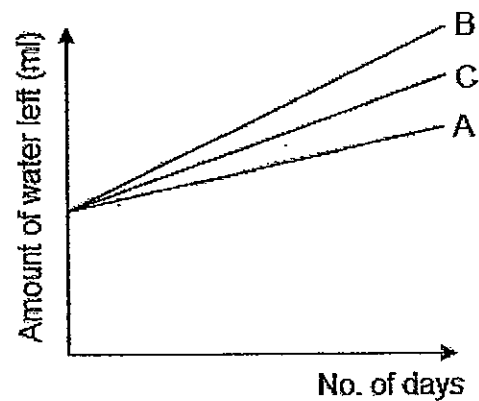
- 15) 3 plastic containers containing the same amount of water are left on a table in the classroom.



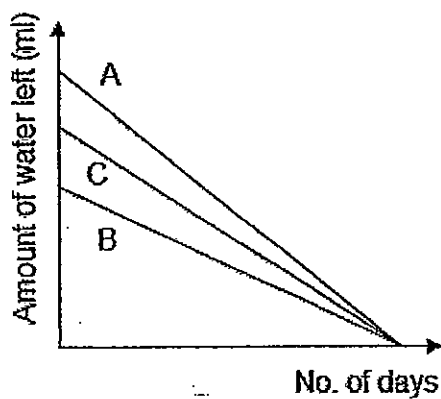
Which of the following graphs shows the correct relationship between the exposed surface area of the container and the amount of water left in the container after a few days?



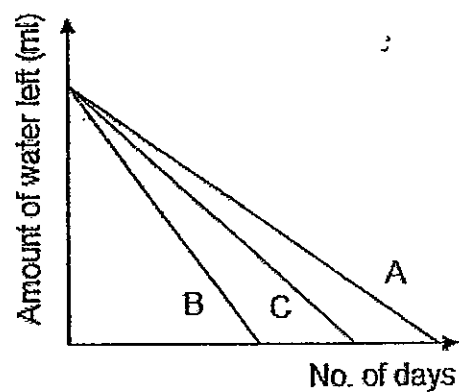
(1)



(3)

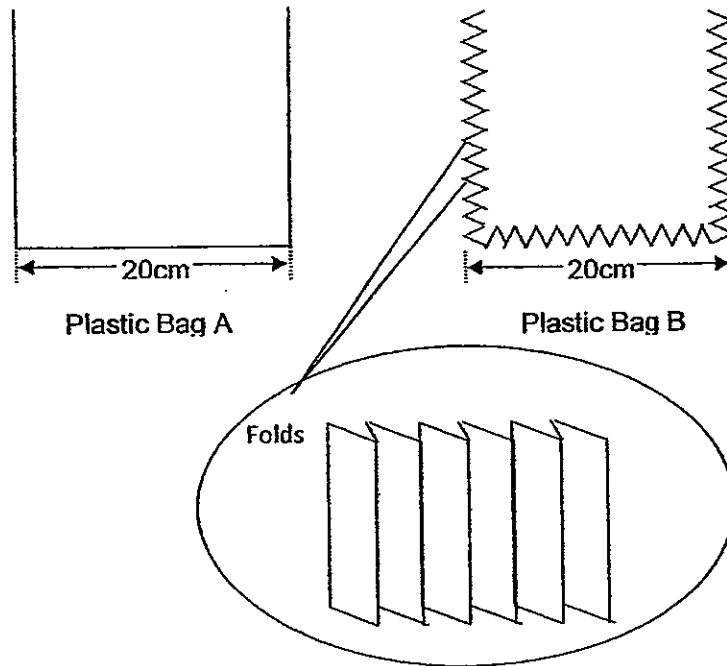


(2)



(4)

- 16) Niki bought 2 bags made of flexible plastic, A and B, as shown in the diagram below and wants to find out about the volume of water that each bag can hold.



Which of the following statements is true?

- 1) Both plastic bags will be able to hold the same volume of water.
- 2) Plastic Bag A will hold a greater volume of water than Plastic Bag B.
- 3) Plastic Bag B will hold a greater volume of water than Plastic Bag A.
- 4) It is not possible to get an accurate measurement of the volume of water that Plastic B can hold so Niki will not be able to compare both bags fairly.

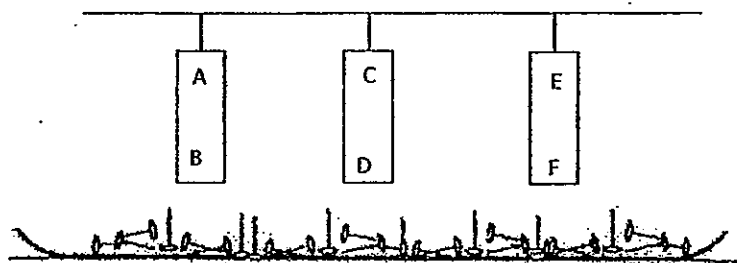
- 17) The diagram below shows 3 metal bars with each of their ends labelled A to F.



The ends of the 3 metal bars were placed close to one another to test if they would attract or repel. The results of the test are shown in the table below.

		Metal Bar 3	
		E	F
Metal Bar 1	A	Attract	Attract
	B	Attract	Attract
Metal Bar 2	C	Repel	Attract
	D	Attract	Repel

The metal bars were then brought close to a plate of iron nails as shown in the diagram below.

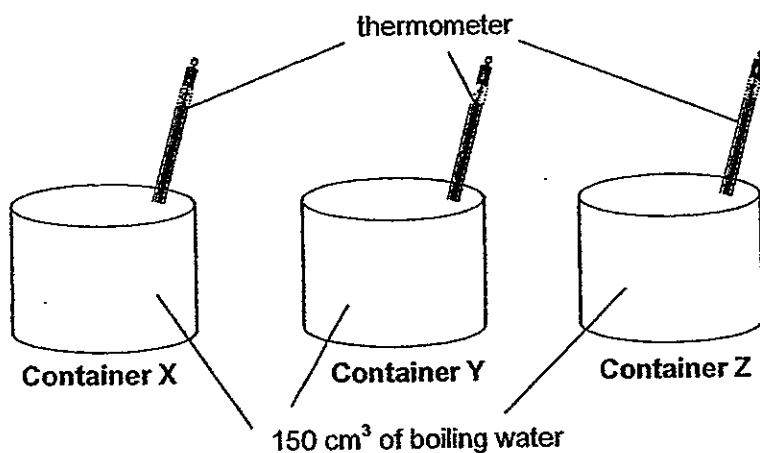


Based on the information given above, which of the following statements is true?

- A: Metal Bar 1 is not a magnet.
- B: Metal Bar 3 is definitely a magnet.
- C: Metal Bar 2 will attract more pins than Metal Bar 3.
- D: All the 3 metal bars will attract an equal number of pins.

- 1) A only
- 2) D only
- 3) A and B only
- 4) A, B and C only

- 18) 150 cm<sup>3</sup> of boiling water is poured into 3 containers of similar shape and size, X, Y and Z. The 3 containers are then tightly sealed and left on a table.



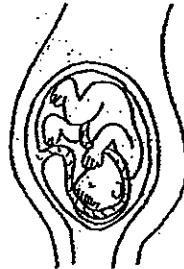
The table below shows the time taken for the water in each container to cool to room temperature of 28°C.

Container	Time taken to cool to room temperature (mins)
X	45
Y	20
Z	30

Which of the following materials are Containers X, Y and Z made of?

	X	Y	Z
1)	Steel	Ceramic	Glass
2)	Clay	Steel	Plastic
3)	Ceramic	Wood	Steel
4)	Iron	Clay	Aluminium

- 19) The diagram below shows an unborn human baby called the foetus.

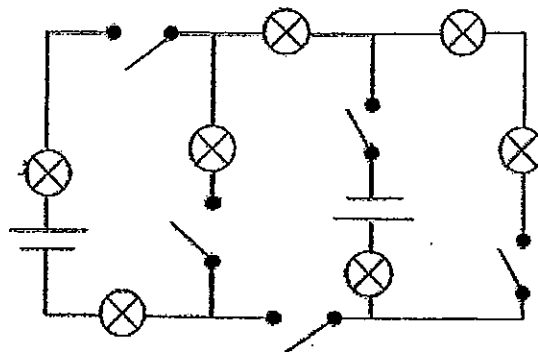


Which of the following statements about the foetus is **NOT** true?

- A: The foetus develops from a fertilized egg.  
 B: At this stage, the foetus needs nutrients and oxygen.  
 C: The foetus will gradually develop in its mother's stomach.

- 1) B only  
 2) C only  
 3) A and B only  
 4) B and C only

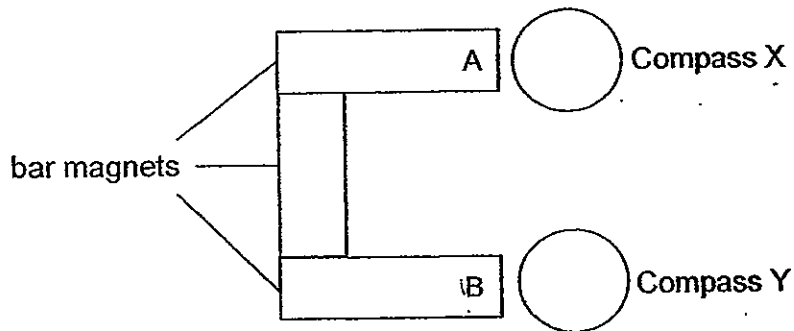
- 20) Study the electrical circuit below.



In order for only 3 bulbs to light up at the same time, what is the minimum and maximum number of switches that must be closed?

	Minimum	Maximum
1)	1	3
2)	2	3
3)	2	4
4)	3	5

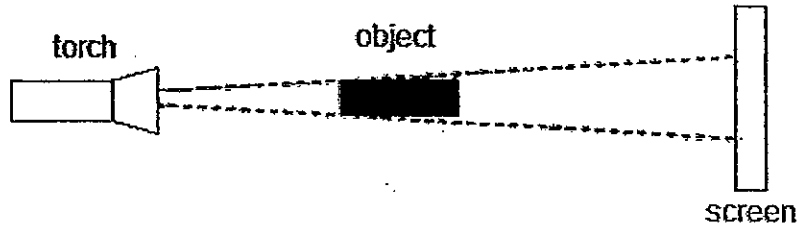
- 21) Melissa set up 3 bar magnets. She brought Compass X towards side A of one of the bar magnets and Compass Y towards side B of another bar magnet. Her set-up is shown in the diagram below.



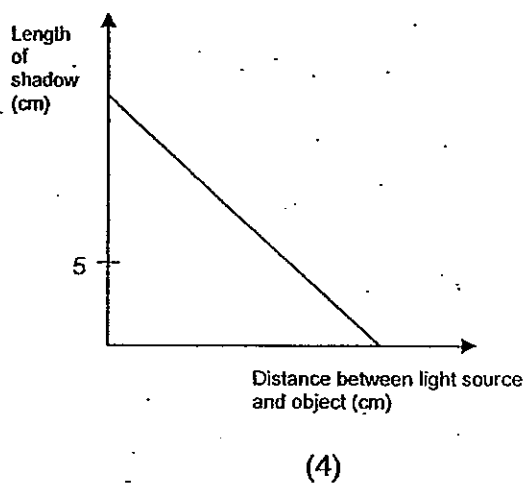
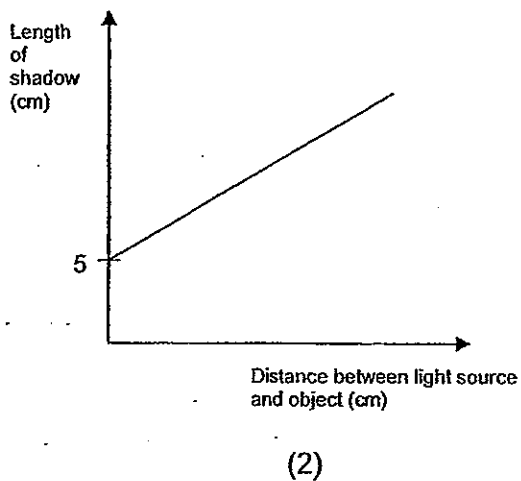
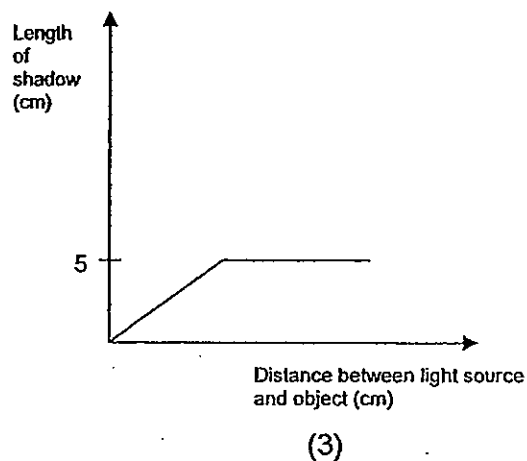
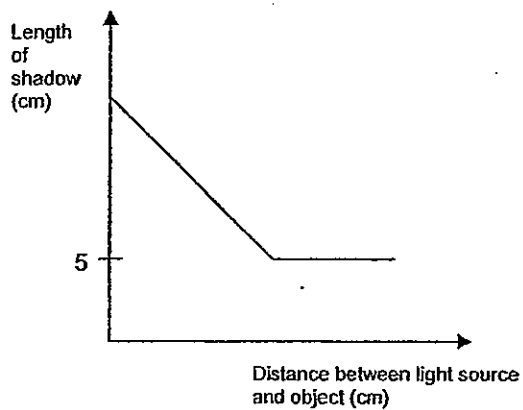
Which of the following correctly represents the directions both compasses will point to?

	Compass X	Compass Y
1)		
2)		
3)		
4)		

- 22) Amanda carried out an experiment using an object with a height of 5cm as shown in the diagram below. The shadow formed was cast on the screen.



Which of the following graphs shows the relationship between the length of the shadow cast on the screen and the distance between the light source and the object?

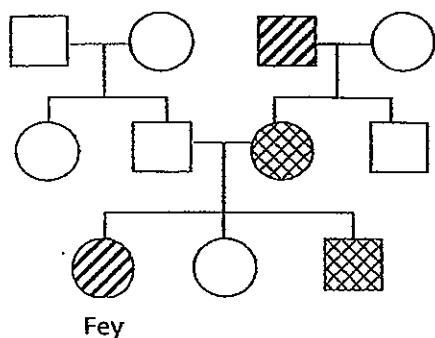
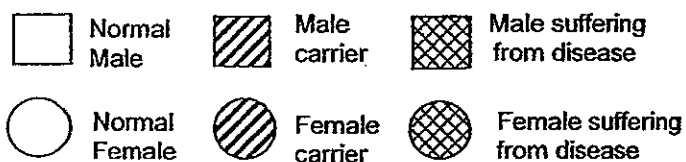




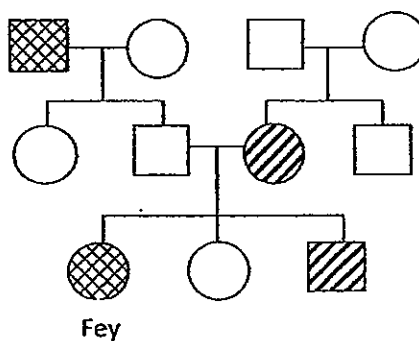
- 23) Fey and her maternal grandfather (mother's father) suffer from Disease X. No one else in her immediate or extended family suffers from this disease. However, her mother and brother are carriers of Disease X.

Using the key given below, which of the following family trees represents that of Fey's?

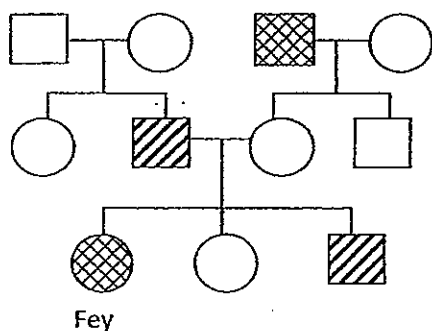
Key:



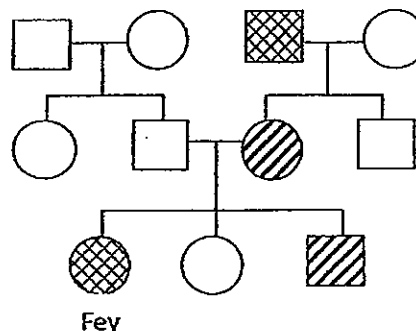
(1)



(3)



(2)

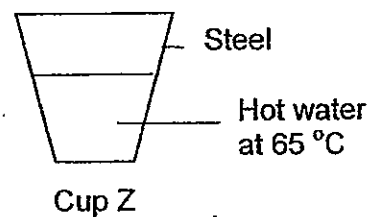
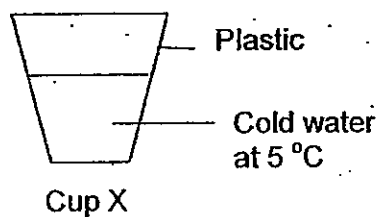
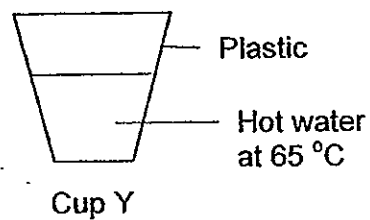
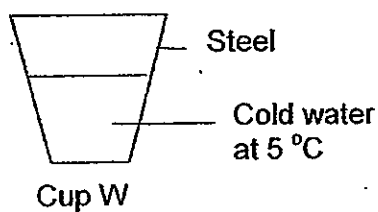


(4)

- 24) Shannon poured an equal amount of hot water and cold water into 2 similar-sized cups of similar thickness. She measured the temperature of the water in the two cups every 5 minutes for 60 minutes and recorded her observations in the table below.

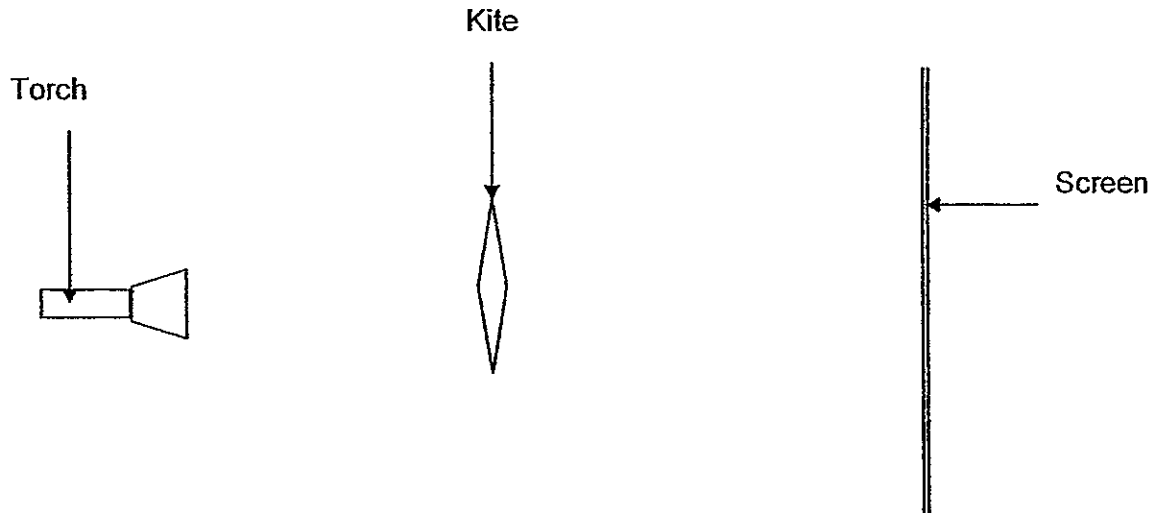
Time (min)	Set-up A (°C)	Set-up B (°C)
0	65	5
5	60	19
10	55	28
15	51	30
20	47	30
25	43	30
30	40	30
35	37	30
40	34	30
45	32	30
50	31	30
55	30	30
60	30	30

Given that room temperature is about 30 °C, which 2 cups did she use?



	Set-up A	Set-up B
(1)	Y	X
(2)	Y	W
(3)	Z	X
(4)	Z	W

- 25) Haley placed a kite in front of a screen and a torch behind the kite as shown.



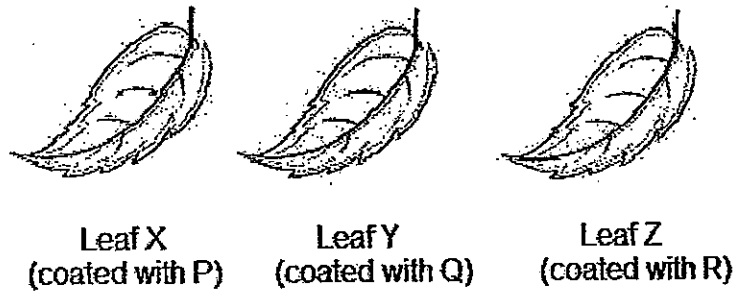
She varied the distance between the torch and the kite, and the distance between the kite and the screen. She noticed a change in the size of the shadow cast on the screen.

What must Haley do to get a smaller shadow cast on the screen?

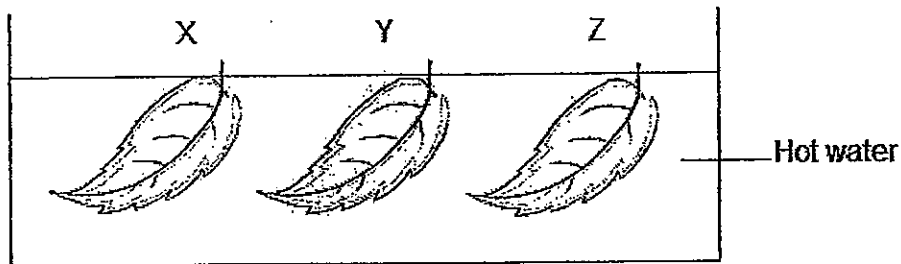
- A: Move the torch closer to the kite.
- B: Move the screen closer to the kite
- C: Move the kite closer to the screen.

- 1) A and B only
- 2) A and C only
- 3) B and C only
- 4) All of the above

- 26) Rebecca plucked 3 similar-sized leaves from a plant and coated them with different substances P, Q and R.



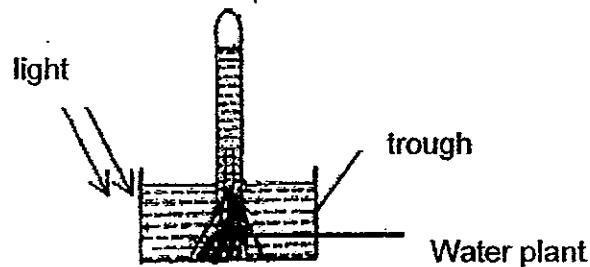
She put the leaves in hot water and observed the number of bubbles seen.



The aim of Rebecca's experiment is to find out if \_\_\_\_\_.

- 1) putting leaves in water increases rate of respiration.
- 2) the size of the leaves affects rate of photosynthesis.
- 3) putting leaves in hot water increases rate of bubbles formed.
- 4) the substance that the leaves are coated with affects rate of respiration.

- 27) Phyllis carried out an experiment to find out about the relationship between the colour of light and the rate of photosynthesis. The diagram below shows her set-up.



Which of the following must she record at the end of the experiment for her results?

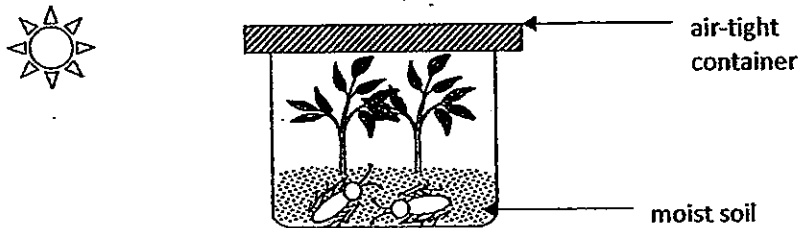
- 1) intensity of light
  - 2) volume of water in the trough
  - 3) amount of oxygen collected in the test tube
  - 4) number of carbon dioxide bubbles produced
- 28) A, B, C and D below describe the functions of the 4 human body systems.

A	B	C	D
Breaks down food into simpler substances	Allows exchange of gases with the surroundings	Gives the body its shape	Carries oxygen, water and digested food to all parts of the body

Which of the following ~~has~~ has the body systems correctly matched to their functions?

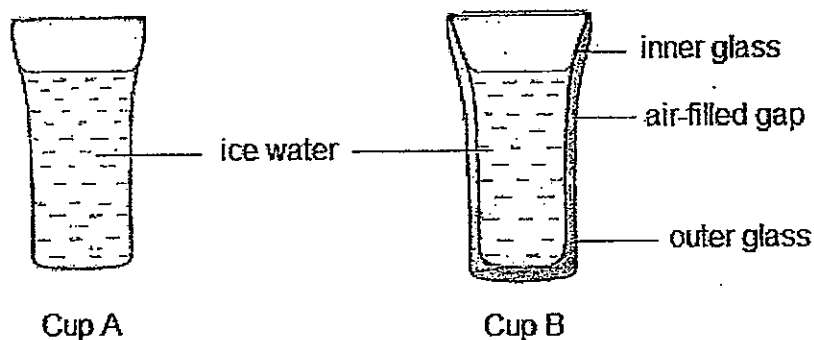
	A	B	C	D
1)	Digestive	Circulatory	Skeletal	Respiratory
2)	Respiratory	Circulatory	Muscular	Digestive
3)	Circulatory	Respiratory	Muscular	Digestive
4)	Digestive	Respiratory	Skeletal	Circulatory

- 29) Patricia set up an experiment as shown below. After 3 days, both the cockroaches and the plants were still alive.



Which of the following can explain why the cockroaches were still alive?

- 1) Plants produce oxygen.
  - 2) Soil releases carbon dioxide.
  - 3) Cockroaches produce oxygen.
  - 4) Plants produce carbon dioxide.
- 30) Liling poured the same volume of ice-cold water into a double-walled glass and another ordinary glass of similar size.



Which glass should she use if she wants to keep her hot milo hot for a long time and why?

- 1) Cup A. Air is a poor conductor of heat.
- 2) Cup B. Air is a good conductor of heat.
- 3) Cup A. Air is a good conductor of heat.
- 4) Cup B. Air is a poor conductor of heat.

SINGAPORE CHINESE GIRLS' SCHOOL  
SECOND SEMESTRAL ASSESSMENT 2012

Primary 5

NAME: \_\_\_\_\_ ( )

DATE: \_\_\_\_\_

CLASS: PRIMARY 5 SY / C / G / SE P1

Booklet A		60
Booklet B		40
Total		100

Parent's Signature

\_\_\_\_\_

SCIENCE

BOOKLET B

14 questions

40 marks

Total time for Booklets A & B: 1 h 45 min

DO NOT OPEN THIS BOOKLET UNTIL YOU ARE TOLD TO DO SO.

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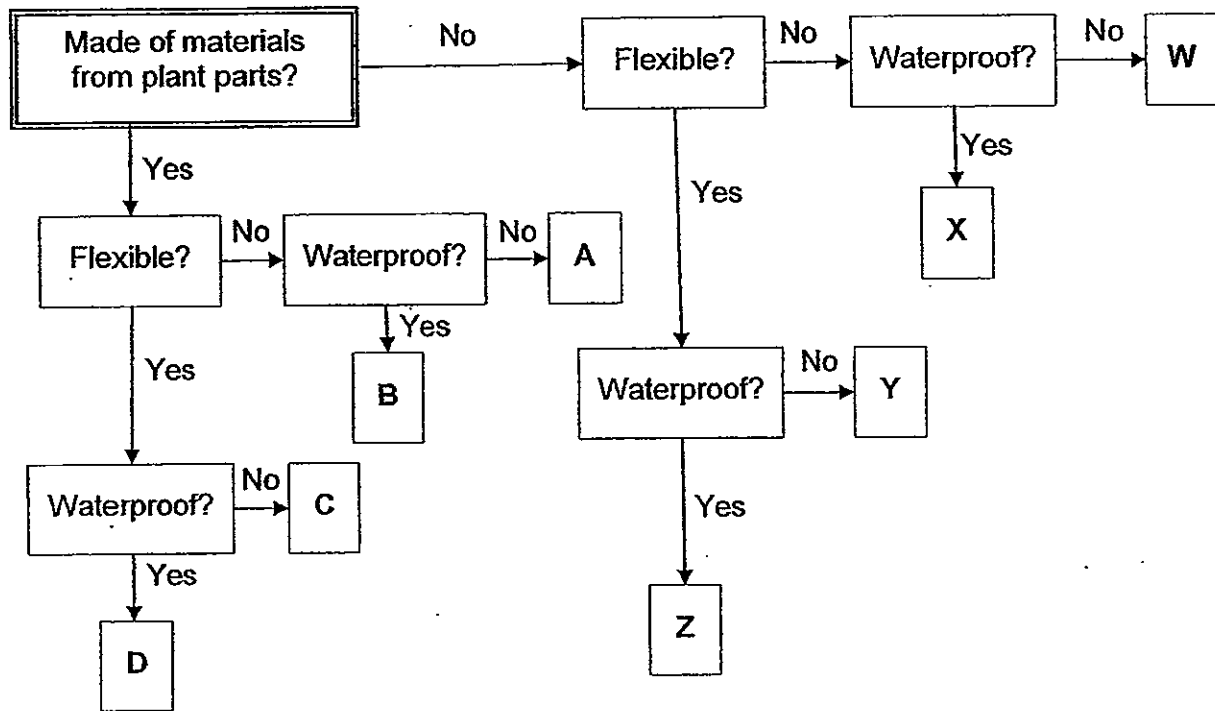




**Part II (40 marks)**

Answer all the following questions.

- 31) The classification chart below shows the characteristics of eight different objects represented by A, B, C, D, W, X, Y and Z.



- a) Describe object C.

(1m)

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- b) State the difference(s) between object X and object Z?

(1m)

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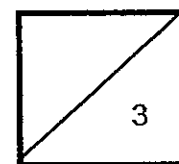
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- c) Write down the letter of the object that best represents the following:

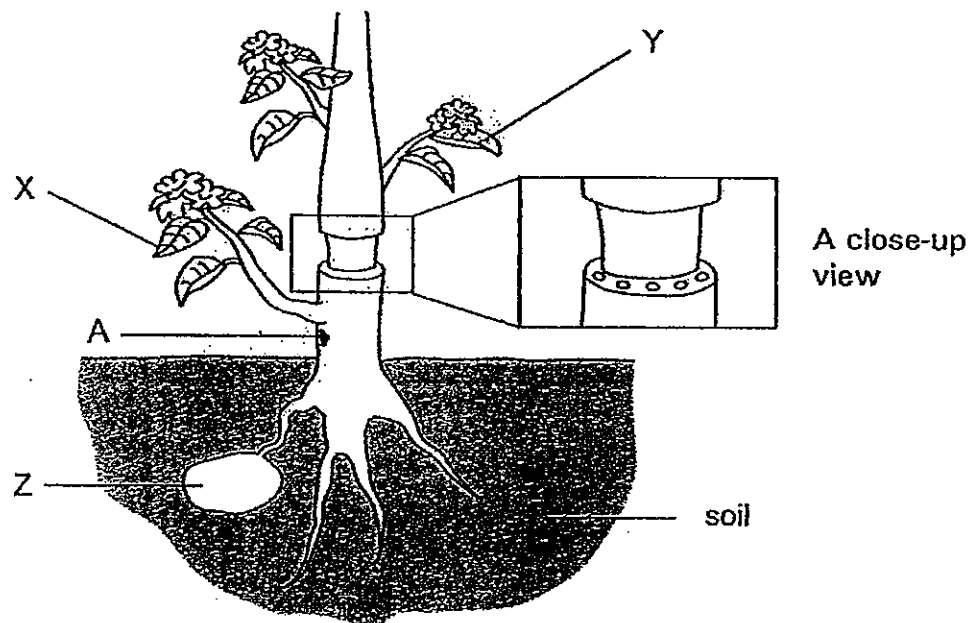
(1m)

i) Writing paper : \_\_\_\_\_

ii) Glass : \_\_\_\_\_



- 32) Sally removed the outer ring of a stem of a plant. As a result, the tubes carrying food and water were removed.



- a) After a few days, Sally observed that the leaves at X remained green while those at Y had wilted. Explain the difference in her observation. (2m)

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- b) Z is an underground stem that can store food for the plant. Sally noticed that part Z grew bigger. Explain.

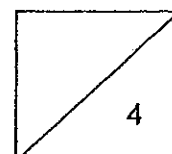
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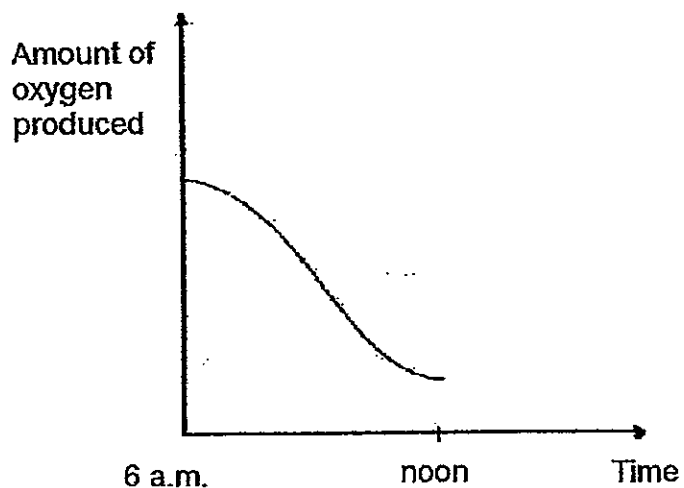
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- c) State what would happen to Z if the same cut had been made at A instead. (1m)

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- 33) Jessica placed a healthy potted plant in the middle of the school field on a clear day and recorded the amount of oxygen produced by the plant from 6 a.m. to noon. Below shows the graph she plotted.



Her classmate Siew Ling commented that her graph is wrong.

- a) Explain why. (2m)

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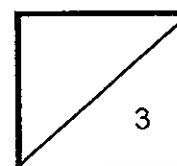
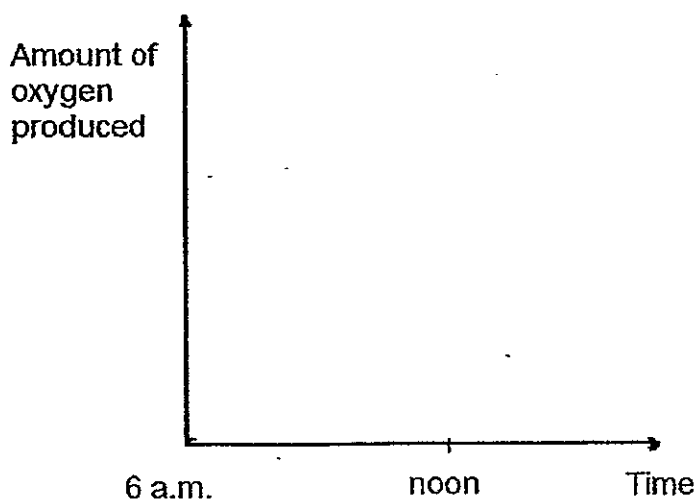


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- b) In the space below, draw the correct graph. (1m)



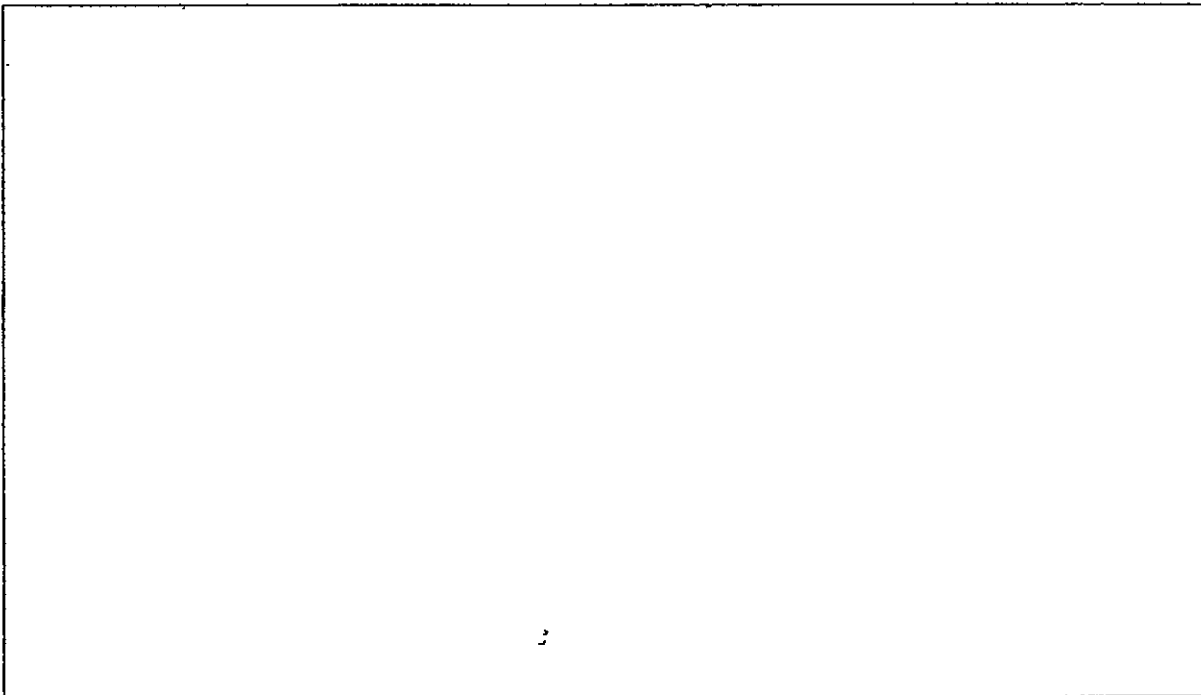
34a) You have the following electrical components:

- 3 bulbs
- 3 switches
- 2 batteries
- some electric wires

In the box below and using only circuit symbols, draw a circuit diagram which satisfies the following condition:

- Only 1 bulb can be lit at a time.

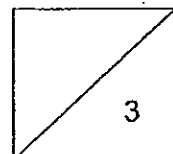
(2m)



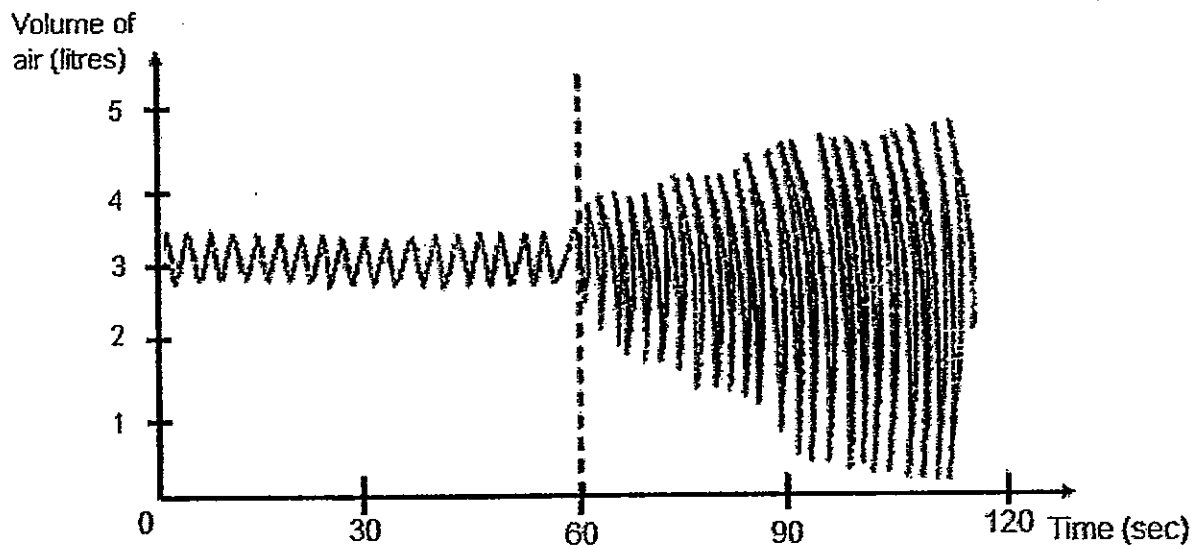
b) State one advantage of connecting the lamps at home in a parallel circuit over using a series circuit. (1m)

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- 35) A spirometer is a device which measures the amount of air that enters and leaves the lungs during breathing. The graph below shows Kelly's breathing recorded by the spirometer during a period of 2 minutes.



- a) Compare the graph from the 0<sup>th</sup> to 60<sup>th</sup> second and 60<sup>th</sup> to 120<sup>th</sup> second. Suggest what Kelly could have been doing during each period. (1m)

0 – 60 <sup>th</sup> second	60 <sup>th</sup> to 120 <sup>th</sup> second

- b) Circle the life process that caused the change in the graph: (1m)

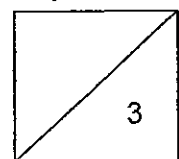
Photosynthesis

Digestion

Respiration

- c) State what happened to Kelly's heart beat rate from the 60<sup>th</sup> second. (1m)

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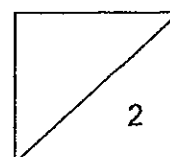


- 36) An experiment was conducted using 4 insect-pollinated flowers of the same species, W, X, Y and Z. At the start of the experiment, different parts of the flowers were removed, as shown in the table below. Insects were observed to visit the flowers freely.

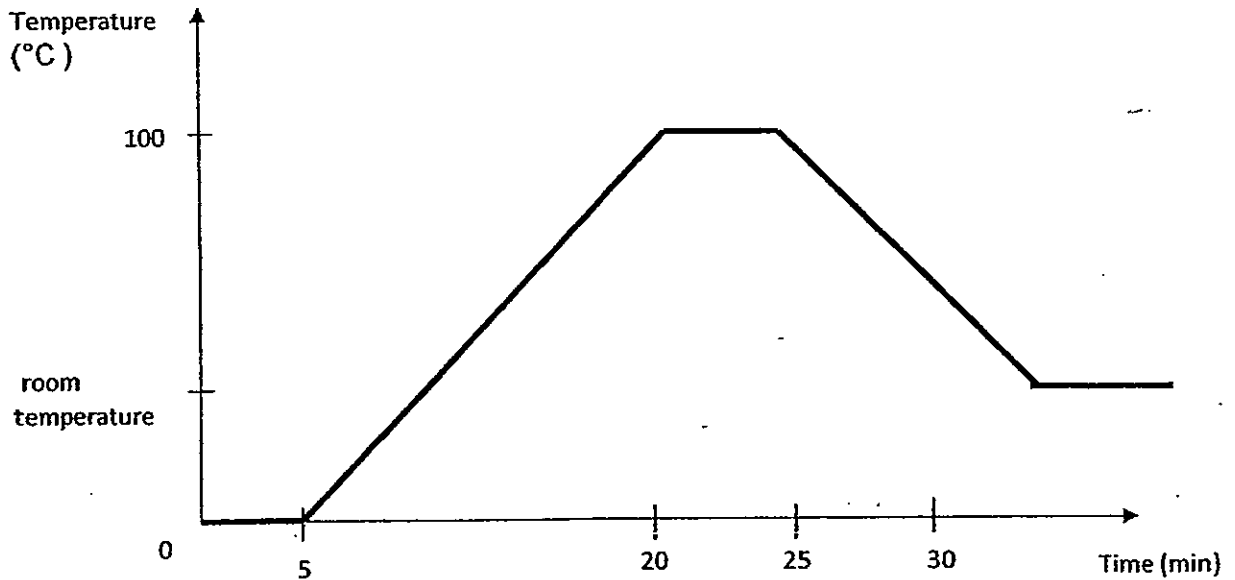
Flowers	Anthers	Petals	Stigma
W	present	removed	present
X	present	removed	removed
Y	removed	present	removed
Z	removed	present	present

Based on the information given in the table, put a tick in the box to indicate whether the following statements are 'True' or 'False'. (2m)

		True	False
a)	Flower X can still be pollinated		
b)	Flower W can still be pollinated.		
c)	Z cannot be pollinated.		
d)	More insects were attracted to flowers W and X.		



37) Study the graph below carefully. (The graph is not drawn to scale)



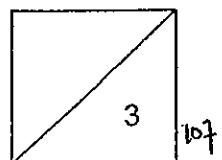
Based on the graph,

- ☐ A Water was left to cool to room temperature.
- ☐ B Water was boiling for 5 minutes.
- ☐ C Water was cooling for 25 minutes.
- ☐ D Water is heated for 15 minutes.
- ☐ E Ice melted in 5 minutes.
- ☐ F Water is in the freezer for 15 minutes.

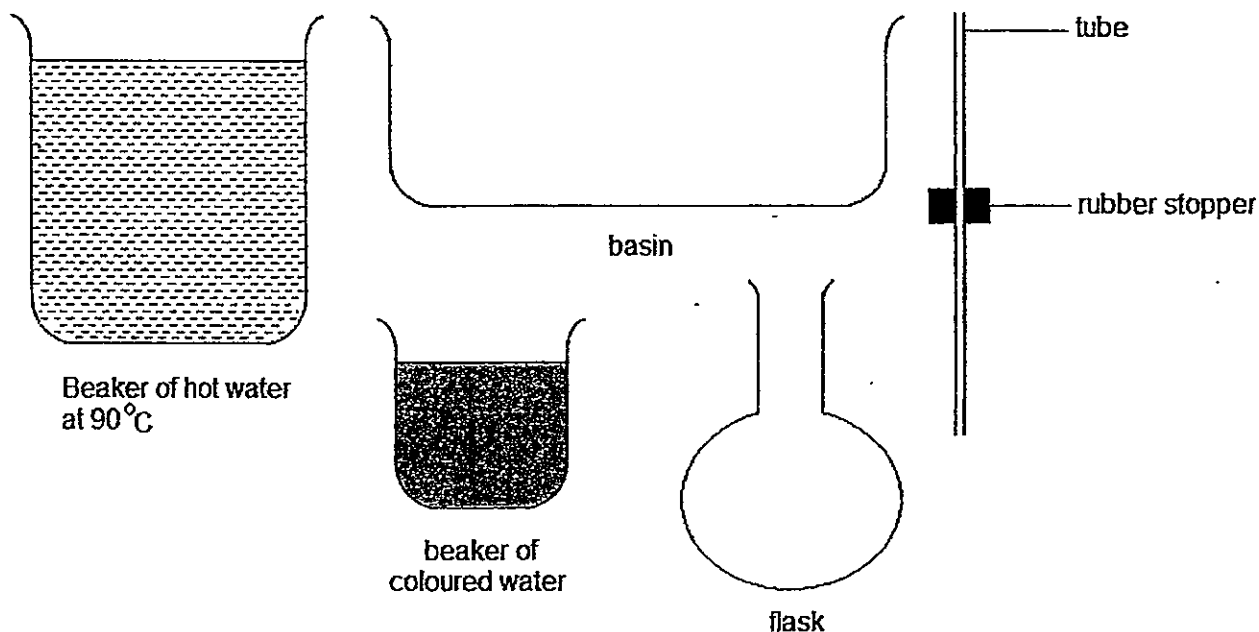
i) Place an "X" over 2 of the boxes for processes that did not happen. (1m)

ii) Sequence the remaining 4 processes in the correct order. (2m)

\_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_



- 38) Samantha has been asked by her teacher to conduct an experiment to study the effects of heat. She is provided with the apparatus below to conduct her experiment.

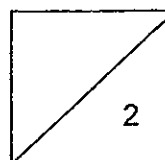


The following shows the steps that Samantha has to take to carry out her experiment.

A	Cover the opening of the flask with the stopper that has a tube in it.
B	Fill the flask with coloured water.
C	Place the flask into the basin.
D	Fill the basin with the hot water.

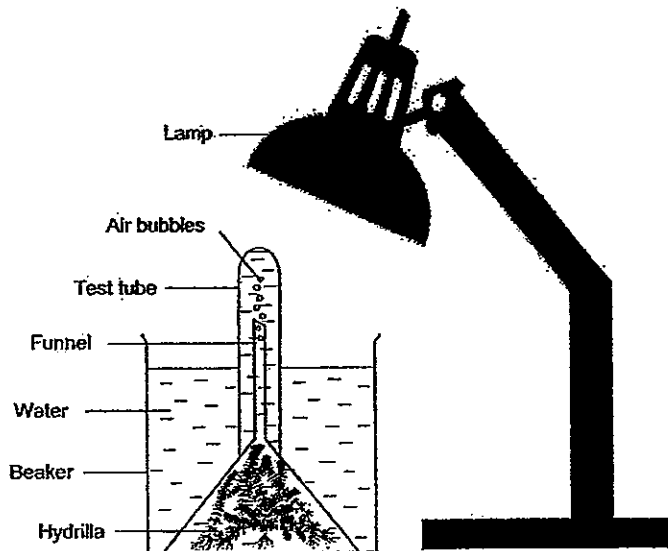
Sequence the steps correctly by filling in the letters A, B, C and D in the boxes below. (2m)

D			
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- 39) Natalie did an experiment by shining a lamp at a hydrilla plant as shown in the diagram below.



She counted the number of bubbles produced by the plant and her results are shown in the table below.

Light intensity(lux)	No. of bubbles produced
0	0
10	5
20	9
30	19
40	23
50	32

- a) Using the same apparatus, how did Natalie vary her light intensity? (1m)

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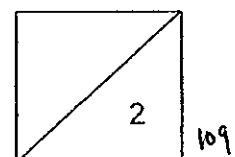
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- b) Based on the results in her table, state the relationship between light intensity and the rate of photosynthesis? (1m)

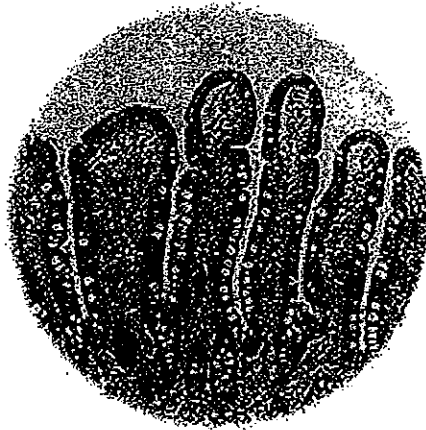
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- 40) Villi are tiny, finger-like projections that protrude from the lining of the intestinal wall. The picture below shows the cells of the lining of the small intestines as seen from under a microscope.



a) State two functions of the small intestine. (1m)

i) \_\_\_\_\_

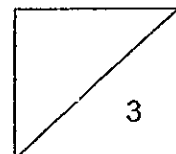
ii) \_\_\_\_\_

b) Elongated projections on the intestinal walls help increase absorption of digested food. Explain why. (1m)

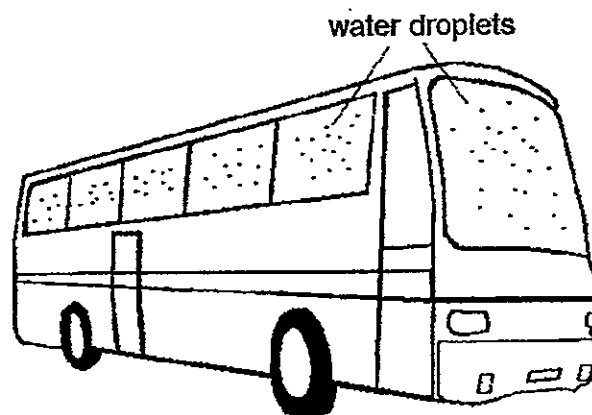
\_\_\_\_\_

c) State the part of a cell that helps the walls of the small intestine perform the function stated in(b). (1m)

\_\_\_\_\_



- 41) Uncle Ravi, a school bus driver, parks his bus at an open-air car park every night. When he went to his bus at 6 a.m. on Saturday morning, he found tiny water droplets on the windscreen and windows of his bus as shown in the diagram below.



- a) Explain clearly how the water droplets formed on the windscreen and the windows even though it did not rain the night before. (2m)

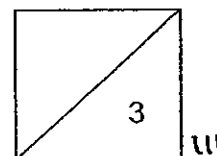
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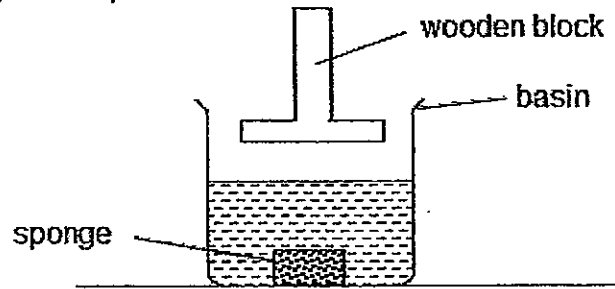
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- b) Uncle Ravi returned to his bus at 10 a.m. that day and found that the water droplets were gone even though he had not wiped them away. Assuming no one else could have come to his bus, state what could have happened to the water droplets. (1m)

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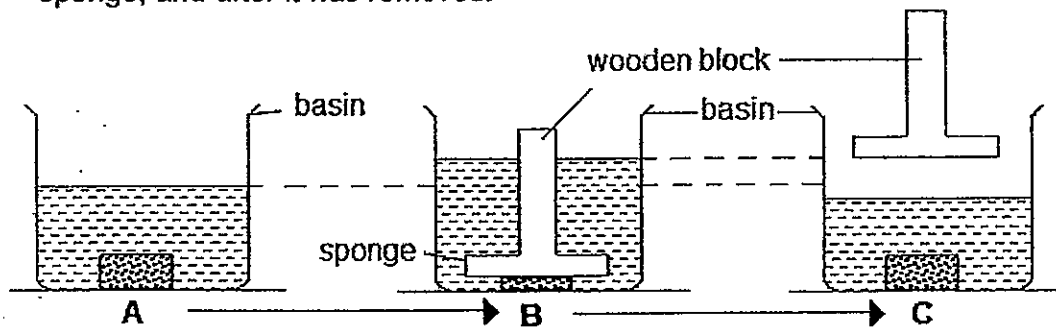


- 42) Lillian taped a sponge to the bottom of a basin and poured water into it. She marked the water level in the basin. Next she used a wooden block to press the sponge down and noticed that the sponge changed shape as the wooden block was pressed against it. After she removed the wooden block, the sponge went back to its original shape.



- a) Explain why Lillian noticed bubbles coming out from the sponge as the wooden block was pressed down on it. (1m)

- b) The diagram below shows the changes in the water level in the basin before the wooden block was inserted in the water, when it was pressed down on the sponge, and after it was removed.



Explain the changes in the water level at A, B and C.

Water level at B is higher than at A: (1m)	Water level at C is lower than at A: (2m)

- 43) To make a temporary magnet, U-shaped iron rod A is stroked several times with a magnet. Figures 1 and 2 shows iron rod A being stroked in 2 different directions and the poles of the temporary magnets formed.

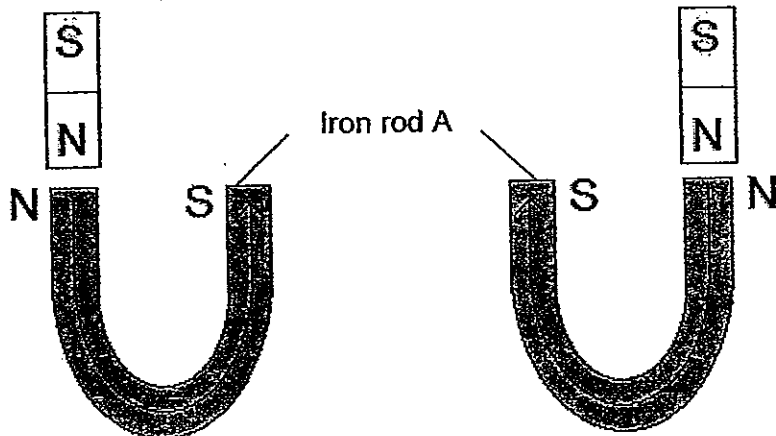
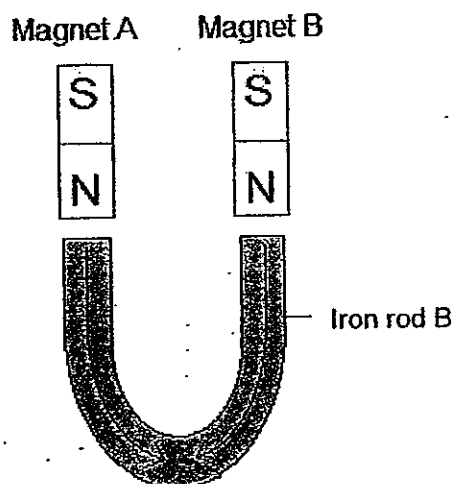


Figure 1

Figure 2

2 magnets are then used to stroke a similar iron rod B in the direction as shown in the diagram below.



- a) Iron rod B will not become a magnet. Why?

(1m)

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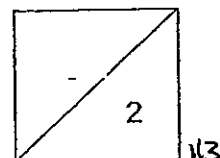
- b) Using the given apparatus, how do we prove that Iron rod B is not a magnet?

(1m)

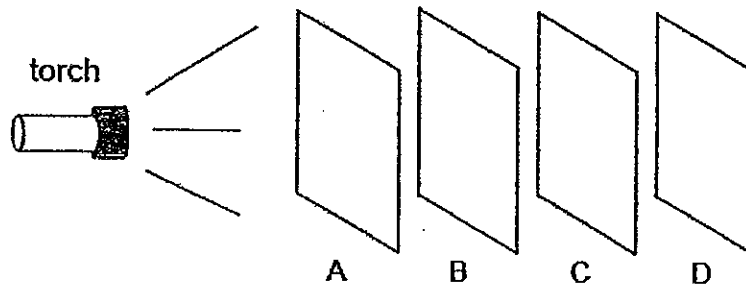
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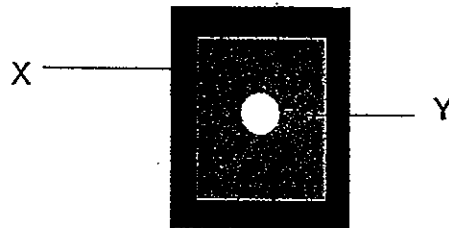
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- 44) Tiffany carried out an experiment in a dark room. She arranged 4 sheets of the same size, A, B, C and D, made of different materials in a straight line as shown.



When she switched on the torch, the following shadow was seen on sheet C only.



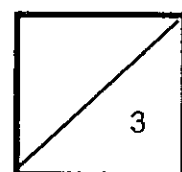
- a) Give one example of the materials that can be used to form shadow X and shadow Y. (1m)

X: \_\_\_\_\_ Y: \_\_\_\_\_

- b) Based on the results of her experiment, Tiffany's classmate concluded that sheets C and D must be opaque. Is she correct? Explain. (2m)

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# Answer Ke

## EXAM PAPER 2012

SCHOOL : SCGS  
SUBJECT : PRIMARY 5 SCIENCE

TERM : SA2

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Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15	Q16	Q17
2	2	4	2	2	4	4	1	1	3	4	4	1	1	4	3	3

Q18	Q19	Q20	Q21	Q22	Q23	Q24	Q25	Q26	Q27	Q28	Q29	Q30
2	2	2	1	1	4	2	3	4	3	4	1	4

31)a)Object C is made of material from plant parts, it is flexible and it is not waterproof.

b)Object X is not flexible while Object Z is flexible.

c)i)C ii)X

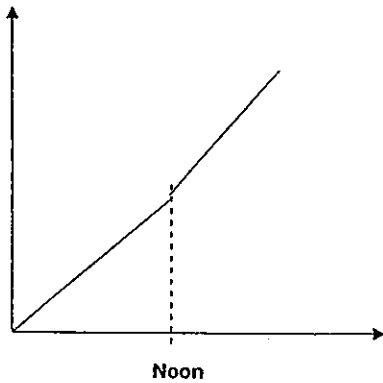
32)a)The leaves at X are below the cut so they are still able to receive water and mineral salts, which are carried by the xylem tubes and they can photosynthesise to make food. However, the leaves at Y are above the cut so the xylem and phloem tubes have been cut, which means that it is unable to receive water and mineral salts and due to lack of water, they wilted.

b)The leaves at X were able to photosynthesise or make food and as the phloem tubes had not been cut below them, excess food was transported through the phloem tubes to part Z, thus causing it to grow bigger.

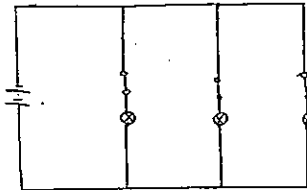
c)Z would stop growing bigger and instead, grow smaller if the cut was made at A instead.

33)a)At noon, the sun is at its highest, so the rate of photosynthesis of the plant is also at its highest, thus, the amount of oxygen produced should be increasing from 6a.m to noon and not decreasing from 6a.m to noon.

33)b)



34)a)



b) Having the lamps connected in a parallel circuit would allow them to be controlled independently while having the lamps connected in a series circuit does not allow the lamps to be controlled independently.

35)a) Listening to soothing music / Exercising

b) Respiration

c) Kelly's heart beat rate increased from the 60<sup>th</sup> second.

36)a) F b) T c) F d) F

37)i) C, F ii) E, D, B, A

38) D, B, A, C

39)a) Natalie varies her light intensity by changing the distance between the lamp and the set-up.

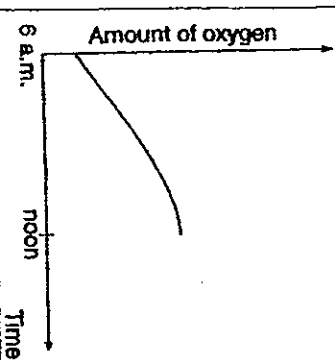
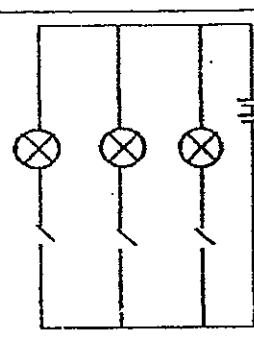
b) The higher the light intensity, the faster the rate of photosynthesis. The lower the light intensity, the slower the rate of photosynthesis.

40)a)i) The small intestine completes the digestion of food and allows it to be absorbed into the bloodstream.

ii) The small intestine passes undigested food to the large intestine to have water absorbed.



P5 Science SA2 2012  
Answers

31a)	It is made of materials from plant parts, is flexible and is not waterproof.
31b)	Z is flexible but X is not.
31ci)	C
31cii)	X
32a)	Leaves at X made food and had water. Leaves at Y made food but had no water.
32b)	Food stored by the leaves at X travelled down the stem and got stored in Z.
32c)	Z grew smaller.
33a)	At 6am, the plant had very little light and so there was very little photosynthesis and the lowest level of oxygen was produced. At noon, the plant has the most light to make food and produce the most oxygen.
33b)	
34a)	
34b)	If 1 bulb is fused, the other bulbs will still light up.
35a)	0-60 <sup>th</sup> second: Resting      60 <sup>th</sup> ..120 <sup>th</sup> second: Exercising

35b)	Respiration.
35c)	It increased.
36)	F, T, F, T
37a)	C, F
37b)	E, D, B, A
38)	B, A, C
39a)	Varying the distance between the lamp and the plant.
39b)	The stronger the light intensity, the higher the rate of photosynthesis.
40a)	Digest food. Absorb digested food into the bloodstream.
40b)	Increase surface area with digested food to allow more food to be absorbed.
40c)	Cell membrane.
41a)	Warmer water vapour in the air condensed on the cooler surface.
41b)	Evaporation
42a)	The sponge contained air and the air escaped when the ladle was pressed down on it.
42b)	At B, the wooden block takes up space and caused the water level to go up.
	In A, the sponge contains air which occupied space. But in C, the air has been squeezed out, thus the water level is lower as the water enters to take the air's space.
43a)	A magnet cannot have 2 north poles.
43b)	Place the N pole then the S pole of a magnet (A or B) to one pole of Iron Rod B. B is a magnet if one of the ends repel.
44a)	X: Metal (any opaque material) Y: Frosted glass (any translucent material)
44b)	No. The shadow was seen on sheet C, which shows that sheet C is opaque. However, it is not possible to tell if sheet D is opaque because no light could pass through sheet C.